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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,903	06/23/2003	Parvis Hassan-Zade	P/3239-16	7540
2352	7590	08/19/2005	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			PAIK, STEVE S	
			ART UNIT	PAPER NUMBER
			2876	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/601,903

Applicant(s)

HASSAN-ZADE ET AL.

Examiner

Steven S. Paik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13-15 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 11, 12, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. Receipt is acknowledged of the Amendment filed June 15, 2005. The applicant amended claims 8, 13, and 20.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 8, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Chung (US 2002/0044096A1).

Re claims 1, 2, Chung discloses an apparatus for identifying a plurality of items (40) each of which has a radio frequency transponder (44; RF tag, smart card, or an RFID tag), which apparatus comprises:

a conveyor for conveying the items ([0020];

a three dimensional radio frequency antenna (antenna array 30 includes a plurality of loop antennae 31-34 producing a three-dimensional electromagnetic field within a passage 25) positioned on one side of the conveyor, the conveyor having a movable part (such as a belt) for moving the items (objects 40) into and out of the antenna (along the direction of an arrow 42) such that the items when in the conveyor are completely surrounded by the antenna (Figs. 2-4);  
and

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a reader (processor 50 includes a conventional RF card reader/writer; [0038]) for sending interrogation signals to the transponders via the antenna and for reading identification information from the transponders ([0039]-[0040]).

Re claim 3, Chung discloses the apparatus as recited in rejected claim 2 stated above, wherein the coils defining the reading field are interrogated sequentially until all transponders are identified ([0038]).

Re claim 4, Chung discloses the apparatus as recited in rejected claim 2 stated above, wherein after a transponder is identified it is placed in a quiet mode to prevent that same transponder from responding to interrogation signals from the antenna (after an object passes the passage 25, it is going to be placed or moved to an area where the electromagnetic field is out of the reading range).

Re claims 8 and 13, Chung discloses the apparatus as recited in rejected claim 1 stated above, wherein the radio frequency transponder (44) comprises:

- a housing (44 is a wireless article);
- a substrate within the housing ([0025]);
- a printed circuit board mounted on the substrate ([0041]);
- an integrated circuit (electronic device 48) mounted on the substrate;
- a coil (46) mounted on the substrate such as to be spaced therefrom; and
- an encapsulant encapsulating the substrate, the printed circuit board, the integrated circuit chip and the coil, the spacing of the coil from the substrate enabling the encapsulate to completely surround the coil ([0024]-[0025], and [0041]-[0042]).

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4. Claim 15 is rejected under 35 U.S.C. 102(b) as anticipated by Geiszler et al. (US 5,565,846).

Re claim 15, a three dimensional radio frequency antenna comprising (col. 2 ll. 10-58): a plurality of cylindrical antenna coils arranged within. n one another in a nested relationship, some of the coils being wound such that horizontal magnetic Gelds phase shift at 180° and 90° may be generated, and others of the coils being wound such that vertical magnetic fields with phase shifts of 1800 may be developed (col. 5, ll. 5-24);

the plurality of cylindrical antenna coils being further arranged such that a three dimensional reading area is developed and noise compensation areas are developed at opposite ends of the reading area (col. 3, ll. 18-24; col. 5, ll. 15-43).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-7, 9, 10, and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung (US 2002/0044096A1) in view of Geiszler et al. (US 5,565,846).

Re claims 5-7, and 20-22 the teachings of Chung have been discussed above, with the exception of teaching a 180° phase shift coil antenna between magnetic fields to reduce undesired electromagnetic noise from affecting the reading field.

Geiszler et al. disclose coils wound and connected that they are 180° out of phase to couple out other interfering signals (col. 3, ll. 18-25; col. 5, ll. 15-45).

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Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to incorporate the teachings of Geiszler to minimize and cancel the undesired noises in the electromagnetic field generated by at least two coils into the teachings of Chung for the purpose of improving RF communication.

Re claims 9 and 14, the teachings of Chung have been discussed above.

However, Chung fails to teach the coil spaced from the substrate by a plurality of spacer elements extending between the substrate and the coil.

Geiszler et al. disclose the coil wound with approximately one quarter inch spacing between the windings of a secondary winding (col. 5, ll. 47-67).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ the spaced winding coils as taught by Geiszler et al. into the teachings of Chung in order to wind the coils with space between adjacent coils for preventing coils from interfering each other and degrading communication capacity.

Re claim 10, the teachings of Chung have been discussed above.

However, Chung fails to teach a plurality of cylindrical antenna coils arranged within one another in a nested relationship and developed noise compensation area at opposite ends of the reading area.

Geiszler et al. discloses that a receiver coil is disposed along the axis of the exciter coil at an opposite end of the exciter coil from the first receiver coil and is arranged substantially perpendicular to the exciter coil, and the two receiver coils are connected in parallel and in phase opposition (col. 2, ll. 47-58). The indicated connection cancels out exciter interference and other unwanted signals (col. 5, ll. 6-45).

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Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ the receiver coil disposed along the axis of the exciter coil as taught by Geiszler et al. into the teachings of Chung in order to apply the exciter coil wound by the receiver coil to the transponder device that it would connect in parallel and in phase opposition, and cancel out all exciter interference and other unwanted signals.

Re claim 18, Chung in view of Geiszler et al. discloses the apparatus as recited in rejected claim 15 stated above, wherein a plurality of coils mounted in a three dimensional arrangement (antenna array 30 includes a plurality of loop antennae 31-34 producing a three-dimensional electromagnetic field within a passage 25 of Chung) such as to provide a three dimensional reading field in which all transponders (44) in the reading field may be interrogated.

Re claim 19, Chung in view of Geiszler et al. discloses the apparatus as recited in rejected claim 19 stated above, wherein the coils defining the reading field are interrogated sequentially until all transponders are identified ([0038]).

#### ***Allowable Subject Matter***

7. Claims 11, 12, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the prior art of the record discloses, teaches, or fairly suggests a distance between turns of coils increase when approaching the respective axis.

#### ***Response to Arguments***

8. Applicant's arguments, see pages 11-18, filed June 15, 2005, with respect to the rejection(s) of claim(s) 1-22 under 35 U.S.C. § 102 or 103 have been fully considered and are

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persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Chung (US 2002/0044096A1).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven S. Paik whose telephone number is 571-272-2404. The examiner can normally be reached on Mon - Fri (5:30am-2:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Steven S. Paik  
Primary Examiner  
Art Unit 2876

ssp